# 4.3 PLUTONIUM DISPOSITION ALTERNATIVES AND RELATED ACTIVITIES

This section describes the potential environmental impacts associated with the disposition of surplus Pu. A key to locating information on the disposition alternatives for deep borehole, immobilization, and reactors categories; common activities; and sites and environmental setting analyzed is shown in Table 4–2. Pit disassembly/conversion and Pu conversion are activities common to all of the disposition alternatives, while MOX fuel fabrication is an activity common to only the reactor alternatives. All three of these activities are analyzed individually in this section. Because at this programmatic stage of NEPA review and decisionmaking, DOE is analyzing and anticipates selecting a technology strategy and not specific locations or facilities at a specific site, representative and generic sites are used for analysis. The representative DOE sites are Hanford, NTS, INEL, Pantex, ORR, and SRS. Additionally, some disposition alternatives (specifically those involving deep borehole placement, MOX fuel fabrication at a commercial facility, and the use of existing or partially completed reactor facilities) do not lend themselves to specific site analysis at this time. Therefore, generic and representative site characteristics have been used for the environmental analysis of these alternatives and activities. For the CANDU Reactor Alternative, common disposition-related activities in the United States are analyzed in this section. [Text deleted.] A description of operational and key environmental issues regarding the use of CANDU reactors for burning MOX fuel is provided in Appendix I.

# 4.3.1 PIT DISASSEMBLY/CONVERSION FACILITY

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The environmental impacts described in the following sections are based on the analysis of the pit disassembly/conversion facility as described in Section 2.4.1. The representative sites analyzed for this facility are: Hanford, NTS, INEL, Pantex, ORR, and SRS. These sections describe the construction and operational impacts of the pit disassembly/conversion facility on the following potentially affected areas: land resources, site infrastructure, air quality and noise, water resources, geology and soils, biological resources, cultural and paleontological resources, socioeconomics, public and occupational health and safety, and waste management.

In accordance with the Preferred Alternative for surplus Pu disposition, the pit disassembly/conversion facility could be located at either Hanford, INEL, Pantex, or SRS. Further tiered NEPA review will be conducted to examine alternative locations including new and existing facilities at these four sites should the Preferred Alternative be selected at the ROD. Although new facilities are analyzed in Section 4.3.1.1 through 4.3.1.10, DOE would preserve the option for using existing facilities to the extent practical pursuant to subsequent tiered NEPA review.

### 4.3.1.1 Land Resources

At all sites, the pit disassembly/conversion facility would disturb 14 ha (35 acres) of land during construction, of which 12 ha (30 acres) would be used for the operating facility. The facility would be sited in a 1.6-km (1-mi) buffer zone contained within the site boundary except at ORR, where the buffer zone is less than 1.6 km (1 mi). With the 1.6-km (1-mile) buffer zone, total land requirement would be 1,853 ha (4,580 acres). This section describes the construction and operational impacts of the pit disassembly/conversion facility on land resources for each representative site.

As discussed in Section 4.3.1.8, historic housing construction rates at all sites would be sufficient to absorb the increase in population caused by the in-migration of operational workers. No in-migration would occur during construction. No offsite land use would be affected; therefore, no indirect impacts would occur.

# Hanford Site

Land Use. The potential site for the pit disassembly/conversion facility would be vacant land in the 200 Area adjacent to 200 East. Construction and operation of the pit disassembly/conversion facility would conform with existing and future land use as described in the current *Hanford Site Development Plan* and with ongoing discussions in the comprehensive land use planning process. According to the *Hanford Site Development Plan*, 200 Area land use is identified as waste operations, which includes radioactive material management, processing, and storage (HF DOE 1993c:13,14). [Text deleted.]

Construction and operation would not affect other Hanford or offsite land uses. No prime farmlands exist onsite. Construction and operation would be consistent with State and local (Benton, Franklin, and Grant Counties and the city of Richland) land-use plans, policies, and controls since Hanford provides information to these jurisdictions for use in their efforts to comply with the GMA (HF DOE 1993c:17).

Visual Resources. [Text deleted.] Construction and operation would be consistent with the industrialized landscape character of the 200 Area. Construction and operation would be consistent with the current VRM Class 5 designation.

#### Nevada Test Site

Land Use. The potential location for the pit disassembly/conversion facility would be on undeveloped land in Area 6 adjacent to the DAF. Construction and operation of the facility in Area 6 would not be in conformance with the current *Nevada Test Site Development Plan*, which designates the southeast area of NTS as a nonnuclear test area. However, Area 6 is a potential site for long-term storage and disposition of weapons-usable fissile materials as part of the NTS defense program materials disposition activities considered under the Expanded Use Alternative (part of the Preferred Alternative) of the NTS EIS (NT DOE 1996c:3-8—3-9); NT DOE 1996e:A-18.

Construction and operation would not affect other NTS or offsite land uses. No prime farmlands exist onsite. The alternative would not be in conflict with land-use plans, policies, or controls of adjacent jurisdictions since none of these counties or municipalities currently undertake land-use planning.

Visual Resources. [Text deleted.] Construction and operation of the facility would be compatible with the industrial landscape character of the adjacent DAF and the current VRM Class 5 designation of Area 6. Views of the proposed action would be blocked from sensitive viewpoints accessible to the public by mountainous terrain.

### Idaho National Engineering Laboratory

Land Use. The pit disassembly/conversion facility would be located on undeveloped land within the ICPP security area that is part of the central core area/Prime Development Zone of INEL (IN DOE 1992g:12). The potential action would be consistent with the current *Idaho National Engineering Laboratory Site Development Plan*, which designates the future land use of the ICPP as receiving and storing spent nuclear fuels and radioactive wastes (IN DOE 1994d:9-8). [Text deleted.]

Construction would not affect other INEL or offsite land uses. No prime farmlands exist onsite. Construction and operation would not be in conflict with land use plans, policies, and controls of adjacent counties and the city of Idaho Falls since they do not address the potential site.

Visual Resources. [Text deleted.] Construction and operation of the facility would be consistent with the existing industrialized landscape character of the ICPP. The alternative would not change the existing VRM Class 5 designation of the area.

### Pantex Plant

Land Use. Zone 12 is the potential location for the pit disassembly/conversion facility. The potential action would be consistent with the current *Pantex Site Development Plan* master plan, which designates Zone 12 for weapons assembly/disassembly (PX DOE 1995g:16), although vacant land would be used. [Text deleted.]

Construction and operation would not affect other Pantex or offsite land uses. There would be no impacts to prime farmland. The alternative would not be in conflict with the city of Amarillo's land-use plans, policies, and controls since they do not address Pantex.

Visual Resources. [Text deleted.] The visual environment would be consistent with the existing industrialized landscape character. The current VRM Class 5 designation of Zone 12 would not change.

# Oak Ridge Reservation

Land Use. The pit disassembly/conversion facility is proposed to be sited on undeveloped land at Y-12. Weapons component manufacturing and development is among the future land uses designated for Y-12 by the future land use plan of the current Oak Ridge Reservation Site Development and Facilities Utilization Plan (OR DOE 1989a:5-6,5-7). The proposal is compatible with the Plan.

Construction and operation of the pit disassembly/conversion facility would not affect other ORR or offsite land uses. Construction and operation would not be in conflict with the city of Oak Ridge land-use plans, policies, and controls since the current Oak Ridge Area Land Use Plan designates the potential site for industrial land use.

Visual Resources. [Text deleted.] The visual environment would be consistent with the existing industrial landscape character. The current VRM Class 5 designation would not change.

### Savannah River Site

Land Use. Vacant land in the F-Area would be used for the pit disassembly/conversion facility. The proposed action would conform with existing and future land use as designated by the current Savannah River Site Development Plan. According to the Plan, current F-Area land use is designated industrial operations, while the future land-use category is primary industrial mission (SR DOE 1994d:11,12). [Text deleted.]

Construction and operation would not affect other SRS or offsite land uses. There is no prime farmland on SRS. Construction and operation would not be in conflict with land-use plans, policies, and controls of adjacent counties and cities since they do not address SRS.

Visual Resources. [Text deleted.] The visual environment would be consistent with the industrial landscape character. The current VRM Class 5 designation of the F-Area would not change.

[Text deleted.]